The State of New Hampshire
Department of Environmental Services

Michael P. Nolin
Commissioner

January 3, 2005

Dear Taxonomic Service Provider:

The New Hampshire Department of Environmental Services (DES) is seeking to enter into a multi-year contract for macroinvertebrate taxonomic services. The following request for bids will hopefully provide adequate details for you to prepare a proposal if you wish to be considered. Please contact me directly if you need further details at (603) 271-8865 or dneils@des.state.nh.us.

BIDDING REQUEST FOR BENTHIC MACRO-INVERTEBRATE IDENTIFICATION

The following bid request is for the solicitation of analytical services for processing macroinvertebrate samples for the DES. Sample processing will include macroinvertebrate sorting, enumeration, and identification. The samples will be collected by the DES Biomonitoring Program staff during the late summer months and will be used for assessing the aquatic health and biological integrity of the state's rivers and streams.

Unsorted macroinvertebrate samples collected from various waterbodies of the state will be submitted to the selected contract laboratory during the fourth quarter (no later than end of November) of every year over a time period not to exceed five years. The number of samples submitted in any given year will not exceed 100. Samples will consist of organisms and associated debris collected from colonized artificial substrates and from standard kick net sampling. Organisms and associated debris will be removed from artificial substrates prior to delivery by the DES staff. All samples will be preserved in ~70% ethanol by volume prior to submittal to the selected contractor. The preferred options for arrangements and potential costs of transport/delivery of samples should be explicitly stated in all proposals and will be considered when making final decisions.

Each sample will be sub-sampled using the grid method outlined in US Environmental Protection Agency's Rapid Bioassessment Protocols, 2nd edition. Specifically, the Caton "cookie cutter" method is preferred. The method requires that the entire sample be evenly distributed in a sorting pan and uses a metal frame to clearly define the sample into grids. For each sample, a minimum of 25% of the grids are randomly selected for sorting (equivalent to 25% sub-sample by volume). The randomly selected grids must include a minimum of 100 organisms. If 100 organisms are not contained within the 25% sub-sample, a second set of grids (25%) are

randomly selected for sorting. The 25% incremental random selection of grids is continued until the minimum target of 100 organisms is achieved. Once a set of grids is selected for sorting, then the entire grid set must be completed regardless of the total number of organisms.

Once sorting is completed, enumeration and identification are accomplished by counting and identifying each organism to the lowest reasonable taxonomic category with a genus minimum, species preferred where possible. Exceptions to this rule are the chironomids, where a sub-family final identification is acceptable. Additional exceptions include organisms in the Class Nemata, Class Nemertea, and sub-Class Oligocheata. For these taxonomic groups past data records indicate varying levels of identification specificity and the DES will consider the level of taxonomic group identification recommended in each proposal when selecting a contractor. Higher level taxonomic identifications for damaged or early instar organisms are also considered acceptable. Final identifications must be consistent with "valid" taxa names in the USDA Integrated Taxonomic Information System (ITIS), unless the selected contractor has more recent information regarding taxonomic classifications.

Quality control will be maintained by rechecking 10% of the sample lot. Rechecking will include re-examining sorted debris for 10% of the samples and ensuring that at least 95% of the organisms have been removed and 95% of the taxa were included in the original sort. Additionally, 10% of the samples shall be selected for re-identification. For each sample selected at least 95% of the organisms shall be correctly identified and counted. Failure to meet any of the QC requirements must be reported to the DES. In the event of QC failure, at a minimum, the respective sample shall be reprocessed. Repetitive QC failures could result in reprocessing multiple samples or contract termination. Final decisions on QC matters are at the discretion of the DES after consultation with the selected contractor.

Deliverables for the samples submitted during the last quarter of the sampling year will be considered due by the close of the first quarter of the following year, unless negotiated otherwise. Final deliverables will consist of a standardized digital data report including taxonomic listings and cited references for making the determination, sample station ID's, total organism counts, and other pertinent information relating to sample processing. A digital data record format will be supplied by the DES to the selected contractor, along with the current master taxa list. The data recording format must be strictly followed to allow for accurate and expeditious data uploads to the DES biological database by biomonitoring staff. All new taxa not already on the master taxa list must be clearly noted in the final data report. In addition, the DES requires that recent changes in taxonomic classifications and "distinct" taxa be identified. The final data report will be in hardcopy and electronic format as specified. Other deliverables will include a voucher collection of 1-3 specimens of each taxon, a laboratory bench sheet copy documenting in-house processing of samples, and the individuals associated with each task. The balance of the sample (unsorted sample debris and organisms sorted for identification and enumeration) will be retained by the selected contractor until the DES receives and approves the data report. The contents will then either be discarded by the contracting lab or returned to the DES. We ask for cost estimates for both scenarios, and a decision will be made based on disposal costs versus shipping/transportation costs. In addition, the DES requests that the selected contractor maintain the voucher collection at its laboratory until the termination of the contract.

After contract termination the voucher collection shall be transferred to the DES.

Bids should be mailed to the attention of David Neils, Biomonitoring Program Manager, at the DES and postmarked no later than February 28, 2006. Proposals should include a cost breakdown on a per sample basis that is considered a fixed price through the entire project period. The cost breakdown should include the following:

SAMPLE PROCESSING COSTS:

- Sub-sampling costs per sample
- Sorting cost per sample
- Taxonomic ID cost per sample
- Disposal costs per sample

= **Total cost per sample**

MISCELLANEOUS COSTS (assuming 50 samples / year):

- Report and data report preparation costs
- Shipping/transportation costs
- Additional costs identified by the contractor

Additional information to be supplied with the bid is to include recommended taxonomic identification level for all non-insects groups, a description of the firm's ability to perform the work based on credentials/educational background and professional expertise of staff, regular QA/QC protocols, and work experience directly related to this project. Thank you for your interest.

Sincerely,

David Neils
Biomonitoring Program Manager
New Hampshire Department of Environmental Services
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